

Deliverable D500.31

Business Cases Specification and Infrastructure – First Version

WP 500

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1 Executive Summary

The document presents deliverable D500.31, Business Cases Specification and Infrastructure – First Version, where a first specification of the business cases including requirements for use of ProSEco methodology and platform in specific industrial environments is presented. The deliverable D500.31 summarises the work realised under task *T530 Business Cases Specification and Infrastructure*, in workpackage *WP5 Integration, Collaborative Design Platform, Service Deployment Platform & Infrastructure*.

The objective of the present document is to provide the results of the work realised by the industrial users, supported by the research partners, in specifying their business cases infrastructure. The work realised in the scope of the task *T530 Business Cases Specification and Infrastructure*, which is presented in this document, comprehends the following issues:

- requirements on the ProSEco methodologies, the ProSEco Collaborative Platform and the Service Deployment Platform
- interfaces between different systems to be integrated within industrial environment of each business case.

In particular the main steps taken to the specification based on the business cases, defined in the deliverable D100.2, were the following:

- definition/specification of examples Product Extension Services (PES) serving as a baseline for development and testing of the ProSEco methodology, platform, engineering tools and core services within each BC
- further selection/description of the different use-cases with the detailing of the general requirements to the ProSEco solutions;
- functional and non-functional specification of the system to be implemented in the Business Case;
- specification of the infrastructure where ProSEco will be integrated in particular with Hard- and Software setup as well as Business Case specific ontology;
- In addition, for each business case cost/benefit analysis is provided.

Four business cases are specified in detail: business case 1 involving Volkswagen, business case 2 involving Electrolux, business case 3 involving Desma and business case 4 involving project partners ONA and Alberdi.

The main objective of Business Case 1, VW, within ProSEco is to allow service providers (both internal and external) to build services using data from sensors and Aml systems in vehicles. Taking this into account the ProSEco intends to support this by providing an environment where the users may create PES and have access to key engineering tools (such as Aml selection tool, security engineering tool and context modelling). Three examples of PES are envisaged for VW, namely ECO Driving Monitor (analyses the user driving behaviour), Vehicle Health check (analyses the data and perform a constant health check of the vehicle) and ECO Monitor for public administration bodies (analyses data and provides information on polluted areas in a city with respect to air quality) as a baseline for development and testing of the ProSEco tools and core services. For early prototype, the first PES will be considered as baseline.

The technical environment from the VW side builds up in the currently available telematics platform that VW has in place for the connection of the vehicles to the OEM Backend side where the ProSEco solutions will be connected. The telematics platform is however still not in use for "everyday vehicles" until now. The ProSEco PES development platform will be developed as a web-based solution and therefore can be efficiently installed and used within VW.

The Electrolux BC (Business Case 2) aims to provide an infrastructure and experimental setup to enable the integration of the ProSEco components/modules for confirming the feasibility of the ProSEco concept and methodology. Since Electrolux is one of the world market leaders in household appliances production then it aims to provide the fundamental background for allowing the extensions of home appliances by services. In this direction, Electrolux strongly believe that the wide exploitation of context aware techniques together with Ambient Intelligence and data mining could potentially open the doors to new business opportunities. By taking into account this objective, Electrolux intends to use the ProSEco system for gathering data from the appliances, combine it with context information with the main purpose to interpret the customer behaviour. ProSEco will support the realization of this vision by providing several

functionalities such as Aml-based monitoring, Context extraction, Knowledge provision services for customer as well as Security enforcement to build PESs solutions.

The main target for DESMA (Business Case 3) is to improve their maintenance service systems for their complex shoe production machines and automation solutions. ProSEco methodology and platform and specifically tools for Aml selection, context modelling, security engineering tool, shall be employed for developing various PES such as maintenance service report management, as well as services including mining and analysis of machine operational data from the field. In such reference PES this data from all available sources (humans, machines, and environment) will be brought together for fast provision of problem solutions to technicians and machine operators. Avoidance or at least minimisation of machine downtimes (due to malfunction, defects, etc.) in combination with significantly reduced maintenance service effort (repair time, travel, spare parts, etc.) will be the result for DESMA and its customers.

In terms of infrastructure and specific technical requirements, DESMA provides several machine components and sensor data for the ProSEco BC. DESMA production systems are using Microsoft Access Databases to store production data and about temperatures and use these databases as data access layer to other systems. The ProSEco solutions will use the already existing databases as information basis. Special hardware for the DESMA BC Prototypes is not required. A normal PC will be used for the PES Development and Deployment phases, with an Ethernet Network Card to realize a connection between PES and DESMA production system databases.

For Business Case 4, ProSEco will facilitate the development of intelligent (PES) to make intensive use of Aml sensor information in order to analyse customers' patterns and preferences. This analysis will lead to the optimization of energy and consumables consumption, and eventually to the redesign of machines or parts, reducing the environmental impact.

ProSEco will also support an extended offer creation process in order to share key information of the manufacturing process and customer preferences that may affect the final offering.

This document, D500.31, Business Cases Specification and Infrastructure – First Version, reports the first version of the document presenting the preliminary specification of the business cases and infrastructure while in the next version of the document, D500.32, Business Cases Specification and Infrastructure – Final Version, the complete specification will be documented. In the next version of the document, due on month 30 of the project, the business cases will have integrated and tested the early prototype of the ProSEco solutions and will specify in more detail about the scenarios of the ProSEco engineering tools and core services use.